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| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                               | 09/991,377             | GOLBIG ET AL.       |  |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                               | Dwayne K. Handy        | 1743                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 1/4/2005.
2. ☒ The allowed claim(s) is/are 1,2,5-16,19-28,31-47,49-81,84-87,90-92,94-99,111,112 and 114-123.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>10/21&amp;10/27/05</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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***Allowable Subject Matter***

1. Claims 1, 2, 5-16, 19-28, 31-47, 49-81, 84-87, 90-92, 94-99, 111, 112 and 114-123 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Claims 62-75 were deemed allowable in a previous action (mailed 7/1/2004).

The cited action contains Reasons for Allowance for these claims. Claims 1 and 13 have been amended to recite the Allowable subject matter cited in claim 62.

3. The Examiner considers the previously cited reference, Giddings to be the closest prior art. Giddings teaches a stackable device having 3 inlets and 3 outlets. Compounds enter the device through an inlet and flow through a combined pathway. Giddings does not teach the extra pathways and/or elements cited in the allowed claims. The Examiner has allowed claims that recite the elements of Giddings plus either a **bypass path**, a **plurality of separate paths for fluid flow**, a cover element, a plurality of heat exchangers, a fluid path for heat exchange medium separate from other paths, and a plurality of holes of differing width and length for controlling fluid flow.

4. The list below recites the allowable features of the instant claims.:

Claim 1 recites two fluid paths, and a plurality of individual reactions units. Each reaction unit is comprised of a mixing chamber, a reactant fluid path, and *a bypass fluid path that is in fluid communication with a different reaction unit such that the bypass*

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*fluid does not flow into the mixing chamber.* Claim 13 adds a *heat exchanger and fluid path for heat transfer.* Claim 76 includes a *plurality of heat exchangers, at least one bifurcated fluid channel* and a plurality of openings having different widths. Claim 111 adds a *cover element having no openings.* Claim 112 recites a means for internal parallelization of *streams that are not in fluid contact* with each other. Claims 114 and 115 recite a heat exchanger that has a *separate fluid path* for the heat transfer medium. Claim 116 includes the bypass path. Claims 117, 119 and 120 recite the plurality of openings having different widths. Claim 118 recites the *bifurcated fluid channel.* Claims 121 and 122 recite the bypass path. Claim 123 recites *heat exchanger and fluid path for heat transfer.*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (571)-272-1259. The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKH  
March 20, 2006

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700